

Daniel Alksnis

Systems Engineer

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Work History

Mining Systems Engineer

September 2018 - Present

Raglan Mine - Glencore

- Managed the development, integration, use, and support of digital mining operation systems and software; a focus on real-time production monitoring, short interval control, preventative maintenance, and collision avoidance.
- Enabled complete remote monitoring of 240+ underground mining vehicles by managing the scoping, purchasing, and installation of the parts and services needed to retrofit the legacy equipment
- Provided real-time underground tracking of all mining equipment and personnel through the deployment of a dense network of BLE Beacons and BLE capable tracking devices.
- Utilized statistical modeling to produce comprehensive analysis on subjects of mine operation efficiency, vehicle maintenance, and vehicle operation safety compliance.

Senior Software Engineer

September 2016 - August 2018

Fences

- Designed, deployed and maintained a microservice architecture server employing full Docker containerization with deployment orchestration distributed across several Amazon EC2 instances with Docker Swarm.
- Improved maintainability, testability and scalability of backend services by developing several microservice Node.js servers to maintain separate functions of authorization, resource access APIs, email distribution, push notification distribution, client use logging and mobile client data input API.
- Led a small team in the construction of a multifunctional web-based user dashboard to service 5 different user classes with unique resource access permissions employing an SPA framework (Mithril.js)
- Employed serverless (AWS Lambda) to execute web crawling scripts with dynamically throttled concurrency to collect GIS measurements of bird observations spanning all provinces of Canada.

Technologies: Node.JS, Express, Docker, Docker Swarm, MySQL, Postgres, PostGIS, Apache Cordova, AWS EC2, AWS Lambda, Mithril.JS, Elasticsearch, Mocha, ES6+, HTML, CSS, REST, TypeScript, Webpack

Lead Software Developer

Jan 2016 - March 2018

National Farmed Animal Health and Welfare Council

- Developed a CMS solution with Django to provide user networks in the Canadian Animal Health and Welfare Community with a place to share and save documents, publish industry events, maintain network interactions with a community maintained member directory.

Technologies: Django, Docker, Postgres, JQuery, HTML, CSS

Project Co-Manager & Lead Developer

Dec 2014 - Jan 2017

AllSeating

- Co-led several parties (Marketing, IT, a 3rd-party CMS agency, a 3rd-party graphics team and devs) to define, communicate and meet user requirements for an online custom furniture assembly tool that spanned dozens of products and offered end users thousands of custom configurations
- Wrote a custom fit web crawling utility Node.JS that allowed end-user to import custom fabric swatches from dozens of online fabric catalogs into realtime render of clients furniture catalog with HTML5 Canvas
- Controlled issues of scope creep by maintaining regular project update reports that ensured application expectations were aligned, explicit and well understood by all parties of the development spectrum.
- Wrote 40+ pages of rich documentation for administrative configuration, best practice asset importing and end-user consumer facing usage.

Technologies: Angular 1.6, Node.JS, LevelDB, Drupal, Docker, Amazon EC2, HTML5 Canvas, REST, HTML, CSS

Ground Control Jr Engineer

Jun 2011 - Sep 2013

Raglan Mine, Glencore (formerly Xstrata Nickel)

- Conducted an on-site pull-test campaign pooling resources from various on-site departments for studying the support capacities and financial viability of multiple cablebolt element installations: grout v.s. resin, borehole diameter, strand quantity.
- Improved departmental quality and efficiency of numerical analysis results (in Map3D) by advancing standards of 3D model construction techniques and understanding of modeling fundamentals.
- Produced mining stability reports detailing ground control risks and ground support recommendations by analyzing ore body geometries, geological characteristics, and rock stress patterns, aided by modern 3D modeling tools and empirical back-analysis.

Non-Degree Study Year

2013 - 2014

University of Toronto: Faculty of Engineering

A full year course load of classes spanning several unique areas of engineering that were entirely separate from previous undergraduate degree: including software design, knowledge modeling and computer reasoning.

Bachelor of Applied Sciences, Mineral Engineering

2007 - 2011

University of Toronto: Faculty of Engineering

An undergraduate education spanning the entire spectrum of the mining sector: exploration and geological engineering; mine and mineral process engineering; project finance, site opening through to site closure.

Noteworthy Academic Projects

Team Project Manager

Jan 2014 - Apr 2014

Ergonomic Design of Information Systems

- Applied the **interaction design lifecycle** to prototype and test a university coursework manager tablet app; establishing user requirements through to evaluating an interactive design for usability.
- Conducted rudimentary task analysis of course work management routines between pre-existing tablet and desktop applications

Team Project Manager

Sep 2013 - Dec 2013

Design & Analysis of Information System

- Applied UML (**Unified Modeling Languages**) to convert user requirements into models of user behaviour (Use Case, Sequence and Activity Diagrams) and application structure (Class Diagrams) to guide the software architecture and live prototype of an online community website.

Languages

English: Mother tongue

French: Working Ability